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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/053,934	01/22/2002	Lin Guo	3123-412	4865

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EXAMINER

BURCH, MELODY M

ART UNIT	PAPER NUMBER
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3683

DATE MAILED: 12/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/053,934

Applicant(s)

GUO ET AL.

Examiner

Melody M. Burch

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 09 October 2003.

2a) ☒ This action is **FINAL**.

2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-59 is/are pending in the application.

4a) Of the above claim(s) 14,21,24,25,27-31,46-52 and 56-58 is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 1-13,15-20,22,23,26,32-45,53-55 and 59 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on 09 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some * c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.

4) ☐ Interview Summary (PTO-413) Paper No(s). _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 4, 5-7, 8, 9-13, 15-20, 23, 26, 32-35, 36, 37-41, 42, 43-45, 53-55, and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Butler et al.

Re: claims 1, 10, 12, 13, 15, and 59. Butler et al. show in figures 4 and 5 a push-pin assembly 408,504 for use with a positioning arm of a disk drive servo writer, the push pin assembly comprising: a contact pin comprising a shaft 506 and a contact head shown to the left of the lead line of number 522 and above the lead line of 502, wherein the contact head comprises an actuator arm facing surface engageable with a disk drive actuator arm assembly as shown in figure 5 as element 504 is similar to element 414, a body 514 interconnectable with the positioning arm 410, the body comprising a contact pin receptacle shown in the area of element 520, wherein at least a lower portion of the shaft of the contact pin is disposed in the contact pin receptacle such that the body is disposed about a perimeter of the lower portion of the contact pin, and wherein the contact head is disposed beyond an end of the body as shown, and a vibration damper 510a and/or 510b as disclosed in col. 4 lines 13-15 and in col. 3 lines 30-31 disposed between at least a portion of the lower portion of the shaft of the contact pin and the body, wherein an entirety of the shaft of the contact pin and the body are disposed in spaced relation via the vibration damper as shown in figure 4. Butler et al. also show in

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figure 5 a disk drive wherein the disk drive comprises a first disk 404 (top) and a first head shown in the area of element 410 and the limitation of positioning the push-pin assembly 408,504 relative to the disk drive.

Butler et al. do not specifically disclose the method for performing a servo writing operation including the steps of moving the push-pin assembly relative to the first disk, moving the first head relative to the first disk in response to the moving of the push-pin assembly step and forming a plurality of data storage tracks on the first disk.

Butler et al. teach in lines 12-21 the limitation of performing a servo writing operation including the steps of moving a push-pin assembly relative to a first disk, moving a first head relative to the first disk in response to the moving of the push-pin assembly step and forming a plurality of data storage tracks on the first disk.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the push-pin assembly of Butler et al. to have been utilized in a method of performing a servo-writing operation, as taught by the disclosure in Butler et al., in order to provide a means of writing information to a disk to store the information for later use.

Re: claims 2, 3, 5, 11, and 33. Butler et al., as modified, show in figure 4 the contact pin comprising a protrusion shown between the lead lines of numbers 510a and 520 disposed toward an end of the shaft opposite the contact head, wherein the vibration damper is positioned about a portion of the shaft which is disposed between the protrusion and the contact head as shown.

Re: claims 6, 7, and 9. Butler et al., as modified, show in figure 4 the shaft further comprising a protrusion shown between the lead lines of numbers 510a and 520 wherein the protrusion is disposed between the contact head and the vibration damper 510b.

Re: claims 16 and 18. Butler et al., as modified, show in figure 4 the limitation wherein the contact pin receptacle comprises a first longitudinal receptacle section 516 and a second longitudinal receptacle section shown in the area of the lead line of number 520, wherein the first longitudinal receptacle section has a larger effective diameter than the second longitudinal receptacle section such that a first spacing between a first wall of the first longitudinal receptacle section and the shaft is greater than a second spacing between a second wall of the second longitudinal receptacle section and the shaft.

Re: claim 17. Butler et al., as modified, show the vibration damper 510a being disposed in the first longitudinal receptacle section, wherein a length of the vibration damper, particularly the length shown in the area of the lead line of element number 522 is less than a length of the first longitudinal receptacle section, particularly the length shown in the area of the lead line of element number 516.

Re: claims 19, 20, 23, 32, and 45. Butler et al., as modified, show the vibration damper comprising first 510a and second 510b longitudinally spaced vibration dampers, wherein the first vibration damper is disposed within the first longitudinal receptacle section, and wherein the second longitudinal receptacle section is disposed between

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the first longitudinal receptacle section and the second vibration damper as shown in figure 4.

Re: claim 26. Butler et al., as modified, show the limitation wherein the second vibration damper 510b is disposed about and longitudinally extends beyond an end of the shaft opposite the contact head. As broadly claimed, the end being the flange portion shown between the lead lines of element numbers 510b and 520.

Re: claims 34, 35, 37, and 38. Butler et al., as modified, show the limitation wherein the first protrusion shown between the lead lines of numbers 510a and 520 of the shaft has an effective diameter larger than an effecting (inner) diameter of the vibration damper 510a.

Re: claims 39, 40, 41, 43, 44, 53, 54, and 55. In another interpretation of claim 33 the contact pin may comprise a contact head shown below and to the left of element number 506 having an outer surface engageable with a disk drive actuator arm assembly via intervening elements, a shaft 506 comprising a first protrusion shown between the lead lines of elements 510b and 520 with the vibration damper 510b being disposed about a portion of the shaft located between the contact head and the first protrusion. In light of this interpretation of Butler et al., the shaft further comprises a second protrusion shown between the lead lines of element numbers 509 and 506 disposed between the contact head and the vibration damper 510b.

Re: claims 4, 8, 36, and 42. Butler et al., as modified, describe the invention substantially as set forth above including a radially spaced protrusion, but do not describe the protrusion has comprising a plurality of radially spaced protrusion

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segments. Examiner notes that in *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960) the courts held that mere duplication of parts has no patentable significance unless a new and unexpected result is produced. Since Applicant failed to provide evidence of the criticality of the plurality of protrusion segments, and since Examiner notes that the use of a large singular protrusion functions equally as well as the use of a plurality of smaller protrusion segments, it is maintained that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the protrusion of Butler et al. to have included a plurality of protrusion segments in order to provide an alternate means of limiting axial travel of the shaft within the body depending on manufacturing requirements.

3. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Butler et al. in view of US Patent 5914837 to Edwards et al.

Butler et al., as modified, do not show the limitation of the first vibration damper comprising a different material than that of the second vibration damper.

Edwards et al. teach in col. 6 lines 2-7 that stiffness and damping characteristics are determined by the material of the elastic members or vibration dampers 932,932' as shown in the figure on the front of the patent and that the interface stiffness and damping alter the dynamic response of the push-pin assembly 18 shown in figure 1. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the vibration dampers of Butler et al., as modified, to have been made of different materials, in view of the teachings of Edwards et al., in order to provide a means of allowing a designer to tune the frequency response of the assembly

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to achieve a desired dynamic response as best determined by routine experimentation depending on the application and environment.

Response to Arguments

4. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

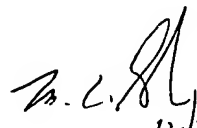
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melody M. Burch whose telephone number is 703-306-4618. The examiner can normally be reached on Monday-Friday (7:30 AM-4:00 PM).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Lavinder can be reached on 703-308-3421. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9326.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

mmb 12/23/03
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December 23, 2003


12/24/2003
WILLIAM C. GRAHAM
PATENT EXAMINER
GROUP 310